THE SCOPE

MARCH

1936

THE SCOPE

Published by the Students of the
Massachusetts School of Optometry
Boston, Mass.

Digitized by the Internet Archive
in 2011 with funding from
Massachusetts Board of Library Commissioners and the Institute of Museum and Library Services

http://www.archive.org/details/scope1936mass3

THE SCOPE

VOL. VIII MARCH, 1936 No. 5

EDITORIAL STAFF

Editor-in-Chief
SAMUEL E. ALPEREN

Associated Editors
JOHN R. LANE
GERARD L. LEMAY
HYMAN M. BAKER

Assistant Editors
WILLIAM V. EMMONS
MAURICE E. LAGUE
ALFRED J. ROY
JOHN C. RUSSEL
DAVID BERLOWITZ
NATHAN GOLDBERG

Business Manager
FRANK A. PITOCCHELLI

Circulation Managers
JOHN A. DI NAPOLI
JOSEPH GAIDES

Senior News Editor
ALVIN J. COLLIER

Junior News Editor
FREEMAN L. RAKUSIN

Sports Editor
WILLIAM H. FOX

Faculty Advisor
MISS ALYCE M. MCCABE

Editorial

Can any one answer the question as to why we humans place blame on the timepiece for our own lack of punctuality?

In the morning the clock inevitably is fast, while in the evening the hands of the same clock are bound to have slowed down, keeping us five minutes longer at our work.

If it were possible in kindergarten to instill into the minds of youngsters the human lesson of promptness, carry it through the primary grades into high school, we may then look forward to a race of people with scrupulous regard to time.

Without a "teacher of time" children grow into adults minus this quality of exactness. Seldom do they arrive on time for a lecture at college; at work the same problem presents itself, and for business or social appointments there is no limit to the uneasiness they cause those who mingle with them.

Without question there are times when one typifying the "soul of promptness" is delayed because of the weather, sickness or some other unavoidable occurence, but for the chronic late comer there is no room for sympathy. People in this category cannot be labeled as reliable. If an individual cannot shoulder minor responsibilities, how can he be entrusted with work in which time is the controlling factor?

Today the majority of institutions do not take tardiness for granted. Certain con-

sideration is shown those who are unable to make train connections due to irregular schedules, but to the individual whose inability to arrive at a specified time through sheer laziness no consideration is shown.

If the above is true in the field of learning, what treatment for this "disease" has a person to look forward to when as an employee, the same problem confronts him? Few of us are indispensable to the extent we cannot be replaced by others who, oftentimes, measure up more accurately to the qualifications required by an employer than we do.

With conditions so unsettled in the world today, an employer has a more variable group of individuals to select from than he did a decade or two ago. This being a true fact, not statistics, is it not reasonable to suppose the man paying your salary would like his money's worth? Assuming this to be the logical answer, is it showing good judgement to keep on payroll men or women who are unreliable, not sufficiently interested in their work to form the habit of planning their private lives, so they will not interfere with the next day's business?

On the other hand, if you are the employer just starting out, and unable to pay for the services of capable assistants, how long will you flourish if you fail to arrive on time to open your office? When a client is financially able to pay for service, he is more or less going to look for it. If unable to receive it from you, chances are he will go elsewhere.

The matter may be summed thusly: If you cannot train yourself to be punctual in your school days how can you expect to perform miracles in the workaday world?

Some Practical Hints

N. Levin, Opt. D.
Chelsea, Massachusetts

Convergence deficiencies are not uncommon. It is generally found in presbyopic stages, and eyes with large P. D.'s are particularly subject to it. It is determined and measured by the amount of the base-in prism of the recovery point of the adduction test. Let us say that the breaking point of the adduction is ten prism diopters of base out, and as we gradually reduce the prism to reestablish fusion, we find that recovery takes place at five prism base-in, this five prism base-in is the measure of the deficiency.

What we are aiming to point out here is this: In order to determine whether prisms should be incorporated with the Rx, it is essential that the duction test should be repeated a number of times and note the changes in the position of the breaking point. If, after repeated trials the findings show that the degree of the deficiency is somewhat reduced, no prisms should be applied. The test in itself is an exercise and the favorable changes in the findings point to the proper procedure. But, when there is no favorable changes in the degree of the deficiency, or when it shows that the more we repeat the test the greater the deficiency, prisms should be applied. The amount of the prism is generally about 4 diopters divided between the two eyes. It can be made up in Kryptoks disregarding the effect of the same for the distance. For a short time the patient may complain that the ends of the table seem to be curved down or the center is bulging out, but after a while there are no complaints.

Speaking of prisms, let me cite an unusual case. In the fall of 1932, I had given a man of 68 years of age the following Rx:

O. D. −2.50 cyl axis 180 = 8. prism base-in
O. S. −1.50 cyl axis 180 = 9. prism base-up
Add +2.50 for near

Note the reading of the prisms: base-in on one eye and base-up on the other eye, I use this form in testing. It is simple and convenient for checking and rechecking with the different powers of prisms. In making the glasses, the prisms were divided between the two eyes with the power and axes according to the expressed resultant of the combined prisms.

The history of the case showed that he had been wearing prisms for many years and his main trouble was diplopia. The correction that I gave him helped him only a short time, as he returned six months later with the same complaint. A reexamination showed that in order to eliminate the diplopia, we would have to give him more prisms and I began to realize that there would be no end to this thing. The next best thing to do was to remove all prisms thereby forcing the suppression of one eye and get rid of all the diplopia troubles, and this was what I did. The last I heard of this man was in the summer of 1935. He came to replace a broken lens, and stated that of all the glasses he has ever had he has never enjoyed them as well as he did the last pair. I do not advocate this method only in emergency cases.

There are numerous instances where the practitioner cannot decide whether he should give a *Full* correction or just a correction, the thing to do is to watch the direct changes in the phoria. Let us say that monocularly the accepted correction is a plus one diopter, to check this binocularly, we try phoria and bring the eso and the exo in perfect alignment, increase the lens values a quarter of a diopter at a time and watch the changes in the phoria. If there is a decrease in the phoria, the added lens values represents the full binocular correction which should be given. In other words, in all instances where there is a direct favorable change in the phoria, the added lens value will be gratefully accepted binocularly. When there is no direct changes in the phoria, the monocular correction as found should be given.

In all advanced myopes in the presbyopic stage, who have never worn a correction before, it is best to prescribe the near correction only to be worn constantly. In many instances I do not try the distance test at all, but proceed immediately with the near test and give him the same Rx for all purposes. When pronounced astigmia is involved, instead of using the twenty-foot distance, the astigmatic chart is brought within close range, say 8 feet, and the test is taken from this distance.

SENIOR SORROWS

Dr. Green is cautioning the "border line" students to hustle for the coming exams, but what they want is to pass the State Board-er line!!

A few of the chronically shiftless boys, late of the B Section, deliquent group, will start the next Theo. Optom. midterm with a handicap. Dr. Green, the official handicapper, has docked them 5 points, for not writing a paper on Opacities. I figure if they answer one of the questions twice they will get the 5 points back; or else they can fill in with the code of ethics.

If you've never seen Dr. Namias on a bender, attend one of his lectures enriched with demonstrations and diagrams on adjusting frames. Right before your eyes, with only a snipe nose plier (Arrow AA $1.75—see Berlowitz), he puts reins on a saddle bridge frame. You can almost hear the organ music from the temples when he angles them.

Another achievement of the versatile Dr. Namias is his lens measure adjusting. Read this statement from a freshman, "when I brought my lens measure to Dr. Namias it was losing three diopters a day, but in the short time of three weeks he had it perfect."

Evolution and Human Eye

Part I

MARK H. BUDILOV

In this issue the author presents a brief, non-technical outline of this story of Evolution, dealing essentially with the definition of the term "Evolution", some of the scientific evidence that has been discovered to prove that evolution has taken place, and the current hypotheses that have been advanced to explain its mechanism—how it works. It may seem to us at first to be a far cry from Evolution to Optometry, but there is a connection. The human eye has played a most fascinating role in this greatest of dramas, and in the opinion of the author, to understand that role, it is imperative that we first make a careful study of the plot. Next month we shall go on with the evolution of the eye.

Biologists have classified more than a million species of animals—living and fossil. This unalterable fact at once gives rise to a number of questions: 1. How did each species arise? 2. Are they all blood-relatives? 3. How long have animals existed? 4. Why does each happen to be so perfectly adapted to its environment? 5. Is man simply another species of animal?

Right here lies the cause of the age-long struggle between Science and Religion. The latter adheres tenaciously to the doctrine of Special Creation, while the former proposes Evolution in explanation of the origin of species.

"Some call it Evolution,
Others call it God." —CARRUTH

The following is a brief summary of both theories:

Special Creation

1. Recent origin of species—Animals were created only a few thousand years ago. (Genesis I).
2. Immutability of species—The characteristics of each species have not changed since its creation.
3. Independent origin of species—There are no blood ties between them; each was created separately.
4. Supernatural agency—Jahveh created all species.

Evolution

1. Great antiquity of species—Animal life has existed about two billion years on earth.
2. Mutability of species—Species have changed when changes in their environment made such changes necessary for their survival.
3. Blood-Relationship of species—All animals came from a single ancestor by a process of transformation.
4. Natural agency—All animals have come to differ from one another by slow, continuous, progressive changes in accordance with Natural Law.

Now, which of these views are we to accept? Obviously, it depends upon what we use as a basis of acceptance. If we should accept Special Creation then we must regard the Bible as an inerrant authority on all branches of science, e. g. Geology, Astronomy, human and animal origins, as well as in the realm of spiritual truth. But the contradictions and the inconsistencies of the Bible as regards various scientific questions are so obvious that they are hardly worth mentioning. The Hebrew conception of the universe, for instance, is in no way acceptable in the light of present-day knowledge of the universe. The proponents of Special Creation can hardly prove their case by merely *appealing* to the Bible, which they dogmatically cling to as an infallible authority on science. They have no evidence at all! They are inherently prejudiced against science, and do not seem to grasp the relation between science and religion. There should really be no friction between the two. One deals with Natural Law; the other, with Moral Law. One treats of Matter and Motion; the other, of Values and Emotion. They both reign in different orders of reality, so there is no inconsistency in serving both.

If we regard the question as a scientific one, we must examine the evidence that science has collected in favor of Evolution. And there are volumes of it. Almost every branch of Science has made some contribution to the total, making the case for evolution quite impenetrable.

Geology—

The earth's crust consists of many miles' thickness of sedimentary rocks which arose from the original crystalline rocks of the earth's crust by disintegration, transportation to the sea, deposition, consolidation and cementation under pressure. Geologists have gone so far as to calculate with a fair degree of accuracy the length of time necessary for the deposition of the earth's crust. In this way they have been able to estimate the age of the earth, and even the time of the first appearance of life on earth—by observing the deepest strata in which fossils were found imbedded. And so the Geologists can tell us that there has been ample time for organic evolution and that there has been life on earth for about two billion years. A study of the skeletal remains of organisms imbedded in the stratified rocks shows clearly that life has been changing slowly through the ages, the older the rocks, the greater the difference between the structure of the fossils and that of living animals.

Anatomy and Embryology—

There are many odd facts about the structure and the development of Man and the higher animals which fit in nicely with the theory of evolution. 1. Consider the finger prints on the human hand and foot. At eleven definite places on the hands and feet there are fine parallel ridges separated by fine grooves—five on the finger tips, four at the bases of the fingers, and two near the wrist or ankle. These ridges have been the subject of much controversy and no one has ever been able to prove that they have any functional value. Is it a coincidence, however, that they match both in number and position the concentric rows of horny scales in the foot-pads of the Insectivora (hedgehog e. g.), a group of Mammals which show unmistakable evidence of being near the direct line of man's ancestry? In this sub-class of Mammals the horny ridges have a definite purpose—to prevent slipping and skidding. And so these finger prints not only serve to convict men of animal ancestry but (more recently) of crime, also. 2. Another fact that "makes a monkey out of man". On the human body, gravity usually determines the direction of hair-growth. Curiously, however, in the case of men and apes the hair on the forearm slants from the wrist to the elbow, and that on the arm, from the shoulder to the elbow—a complete reversal of direction! Why?—unless they have a common ancestry. 3. The vermiform appendix is often cited as a typical rudimentary organ, of which there are over one hundred in the human body—organs that have no apparent function of value. In the lower animals (the cow, horse, e. g.) the appendix is a well-developed extension of the bowel and serves a definite purpose. It adds more length to the alimentary canal, which it can well make use of in digesting and assimilating the coarser foods these animals eat. Isn't it logical to suppose that primitive man, whose diet consisted almost entirely of "roughage", had a useful appendix, and that as civilization progressed and man's diet became more refined, this organ atrophied from disuse? 4. How about the ear muscles in man? They are vestigial and useless, but we have all seen cases ("throw-backs") in which they have been used to wiggle the ears faintly. Lower animals (horse) have well-developed muscles behind the ears which can function to wiggle the ears, to brush flies off the head and neck, for example. Their presence in man indicates that his primitive ancestor probably made use of them also. 5. The presence of gills in the human embryo up to birth is evidence of man's fish ancestry. There are a number of cases ("throw-backs") on record in which these gill clefts failed to close before birth, and children have been born with open gills.

6. The human embryo has a tail which at about the third month of foetal life is about as long as the rest of the body—another point in favor of man's animal descent. This embryonic caudal appendage disappears gradually, and at birth is gone entirely, but here also cases have been known where children have been born with tails. For example, there is living today in Japan a fifteen year old boy named Moy who had a nine inch tail at birth.

All these peculiarities cannot be explained by the hypothesis of Special Creation. Why, if man were created should he have been endowed with useless organs, "excess baggage".

Physiology—

Blood of man and the higher apes are chemically similar and both are susceptible to the same diseases. Why this similarity, unless they are blood-relatives?

Now a word with regard to the mechanism of evolution. How does it work? The most widely accepted hypotheses are those of Darwin and DeVries. Here is a brief outline of the Darwinian hypothesis.

Variation—

All individuals at birth show small, fortuitous variations—an observed fact.

Multiplication—

There is an over-production of young in every species—another fact.

Competition—

Therefore there will be a struggle for place and food among themselves and in competition with the young of other species —a "struggle for existence".

Heredity of Variations—

Suppose the individual variations are advantageous or disadvantageous in this struggle. Those young which are better equipped for the struggle by virtue of their advantageous variations will win, and, assuming that these variations are inherited, their off-spring will vary as themselves. The others will be wiped out, together with their disadvantageous variations. This process has been termed "Natural selection", and results ultimately in changes in species and increased adaptation to environmental conditions.

DeVries differs from Darwin in one major aspect, which, in the light of recent investigation, makes his hypothesis more acceptable. Darwin's "variations" have never been proven to be inherited. DeVries claims that species *mutate*, that is new species arise *suddenly* and *abruptly*, and not by a *slow* accumulation of slight differences (variations). Natural selection, then, would tend to eliminate unfit mutants. Mutations are known to be inherited.

In conclusion it might be well to mention a silly, sentimental objection that has often been raised against evolution—that it degrades man, "makes a monkey out of him". People who make this complaint 'prefer to think of themselves as fallen angels than as elevated apes". Furthermore, evolution does not say that man came from monkey. It merely claims that both are descended from a common ancestor. What difference does it make anyhow? Men and apes are still different, despite their origin. The worth of an individual or species is not determined by its origin. "The value of a statue is not judged from the quarry from which its marble is dug."

(To be continued in the next issue)

BIBLIOGRAPHY:

Zoology—J. V. Neal.
Comp. Anatomy of the Vertebrates—J. V. Neal.
Eugene C. Wiseman—American Journal of Optometry.
Comp. Anat. of Vertebrates—Kingsley.
American Encyc. Ophth—

Public Menaces

Baker—bowling without his glasses.

Glixman—the silly cynic, when he gets in practice.

Exford—after a meal.

Moss—with a deck of cards.

Fishelson—with a snipe nose plier.

Dr. Green—with a letter from Peckham.

Dave Cohen—spent two weeks getting an estimate on a hair-cut. He finally took the plunge and emerged with two ears, no scars, and a stray lock on his forehead. How did the barber miss that one?

BFVE41159FW

It seems too bad to title a pretty girl by a number, instead of by the flattering description she deserves.

But in this case the number, to optometrists, is primarily interesting. It's the stock number of that Shuron mounting she's wearing, the Browline, with its distinquishing new RONQUIN bridge. The new RONQUIN makes its appearance also on Shuron Semi-flex and Firmflex mountings, and Shuron Low HiBo and Drop-Eye frames. You'll be seeing more of all five of these distinctive RONQUIN models, because they cover a range of style and adaptability that's bound to make them popular.

RONQUIN is equally attractive on mounting or frame. A close-up of the Browline presents more clearly its simplicity and grace.

SHURON OPTICAL CO., Inc., GENEVA, N. Y.

Established 1864

Junior Prattle -- "Rakie"

Even some of our most brilliant scholars were A. W. O. L. last week. (Spring is definitely on its way).

A certain article in the last issue of the SCOPE so disturbed an illustrious Junior that he almost forgot his Thermos bottle!

Amici and Ferris seem to be having quite a tete a tete lately! (Moreover she seems to be greatly amused by his "jokes"!)

Russel and Helmholtz seem to be working hand-in-hand lately—Sure!—Why not??

Shepard was initiated into the "Casino" Club last week and as a result the depression is over!!

It has been calculated by our class geometrist that a certain student gives rise to "yup" at least 94 times per period! (Just a "yes" man!!)

We understand that "mumps" Cohen is graduating in April—to the Quincy City Nursery! (Just a tonsil extraction—what next?)

By the way; Cohen has taken a new slant on train travel!! (I presume female accompaniment is rather enticing!!)

The "Stand Up and Eat Your Lunch" Club was decreased by one member last week. (Mike actually sat down!)

A certain Junior was seen bribing Dr. Namias in shop the other day, but to no avail—so he asked for his candy back! (Just an Indian giver!!)

"I. B." Shack's menu for lunch sandwiches is very appetizing—He goes constantly from "butter" to "wurst"!!!

Daguerreotypes

by JOHN C. RUSSEL

Next to headwaiters, photographers are, to my notion, the most hateful of bipeds. The old Harris-tweed coat and herring-bone slacks must be forsaken for the conventional, stiffly pressed, lounge-suit and starched collar, and to what end?

So that one of this species of hypogriffin can undo in a few exasperating moments what Kant, Hegel, Spinoza, and countless others have been laboring for years to accomplish. Philosophic calm is driven to the winds, and the delicate introvert becomes a self-conscious smirking satyr with a grin ghastly to behold, all because, some stranger of uncertain behavior, whom one has never seen before, and hopes never to see again does mysterious arabesques in an already disquieted atmosphere, interspersed here and there with shrieks for one to look at the birdie and "smile".

Now in texts on anatomy, there are words to the effect that there is motion of more varied nature in the human thumb than in any other portion of the body. Any photographer knows better, for, isn't he a specialist on the neck? A firm grip on the mandible with one claw, the left ear with the other, and in a second or two a partial coma is induced. The other half of the subject's reserve is completely shattered in but a moment after those beastly blue lights, shrouded only by a dirty white sheet, which never fails to exhibit at least a half a dozen holes, are turned on.

What happens then everyone knows, and if one doesn't remember he has but to glance at any of his photographs, providing of course, he has that much courage. One's physiognomy is reduced from a thing of profound and classical beauty * to a mass resembling putty bespeaking idiocy in every contour and line. The leer in itself is enough to induce a dread psychosis.

True, there are those strong willed natures, those masters of all situations who by sheer cerebral dominance can maintain a "straight face" which, due to excessive energy expended, amounts, in final analysis, to a stony glare. But, they are in the minority, and the process of mental annihilation for them is quite as devastating.

If a chap chooses to effect a Platonic mein, to look like Vandolph Ralintini, Rabindranath Tagore, or even the hunchback of Notre Dame for that matter, it would seem it's pretty much his own business. There is certainly nothing derogatory to be said about a dying calf "look" in a man's eyes, providing he feels precisely that way about it. And though there seems no feasibility in going about defending a man's right to swathe himself in sack-cloth and sit on an ash-heap, the same sort of rationalization holds for our leaving him to his own resources.

Why can't photographers allow one to sit as one ordinarily sits and look as one ordinarily looks? That dear old Irishman, G. B. Shaw has a good enough answer. Unfortunately, however, it is unprintable.

* The author reserves his opinion on asthetics.

"Headquarters for RX Work"

Where your interests come first.

Where you get personal service.

Where every Rx is turned out accurately and promptly with a painstaking effort to please and serve you.

WILSON & HALFORD
OPTICAL COMPANY

387 Washington Street
Boston, Mass.

Your Students Should Know This Instrument . .

One highly gratifying feature of the Bausch & Lomb Binocular Ophthalmoscope is the large area it renders visible at one time. Through this instrument system both macula and optic disc appear simultaneously in an area comparable to text book illustrations. The stereoscopic feature alone affords invaluable additional information. These and other advantages are clearly detailed in literature mailed on request to prospective practitioners.

BAUSCH & LOMB
OPTICAL CO.
ROCHESTER, N.Y.

Bowling Headquarters of the M. S. O.

FENWAY ALLEYS

FENWAY THEATRE BUILDING, Massachusetts Avenue

Meaness or Greeness

If you want to pay homage to truth, keep using it.

As we grow better we run across better people. Like attracts like.

Every day has something in it to keep one occupied without meddling in little things.

There is no condition that you cannot overcome.

Every duty that we omit darkens some truth that we should have known.

Schools are pretty powerless without the backing of the home.

The opinion of the best authority is not always expressed in the loudest talk.

An eavesdropper seldom hears anything good said of him.

Tait RETINOSCOPE

FOR STATIC and DYNAMIC RETINOSCOPY

First choice of many students and widely used in actual practice, the Tait Retinoscope permits an accurate determination of the basic refractive condition. . . . Its use affords the refractionist the most accurate means existent for determining, at the near point:—lag of accommodation behind convergence; total negative relative accommodation; convergent accommodation; ciliary tonicity. . . . The absence of a restricted entrance pupil makes for finer discrimination in both static and dynamic tests. . . . A comprehensive, educational study of Tait Retinoscope Technique and Use is yours for the asking. Write to — Department of Visual Science, American Optical Company, Southbridge.

American Optical Company

Through Twenty "Master Service" Offices

COLONIAL OPTICAL COMPANY

is prepared to meet your most exacting requirements both in prescription and stock needs.

Progressive practitioners recognize the value of supplying products that will enhance and build prestige.

As distributors of BAUSCH & LOMB OPTICAL COMPANY we offer a line of the finest materials available featuring *PROTECTION* and *PROFIT* in such items as

ORTHOGON, PANOPTIK AND SOFT LITE LENSES
and LOXIT MOUNTINGS

COLONIAL OPTICAL COMPANY

INCORPORATED

AUBURN	BUFFALO	NEW YORK	ROCHESTER
ALBANY	BURLINGTON	NEWARK	SPRINGFIELD
BINGHAMTON	HARTFORD	NEW HAVEN	SYRACUSE
BROOKLYN	JAMESTOWN	PROVIDENCE	UTICA
BOSTON	LYNN	PORTLAND	WORCESTER